

chronic affections of the skin, gonorrhœa, leucorrhœa, chronic expectoration, syphilis, impotency, defective menstruation, and chlorosis.

In the above diseases, the author recommends the iodine solely upon the authority of the French, German, and English physicians, who have written upon the remedy, referring but seldom, if ever, to his own experience, either to confirm or correct their statements.

D. F. C.

XXII. *Sur les Vaisseaux Absorbans du Placenta et du Cordon Ombilical.* Par V. FOHMANN, Professeur a l'Université de Liège. (Avec une Planche Coloriée.) Liège, 1832.

Among the anatomists of modern times, who have been most indefatigable and successful in their researches into minute anatomy, Fohmann must unquestionably be placed in the foremost rank. His discoveries of the immediate communication between the lymphatics and veins in the lymphatic glands; of the existence of lymphatics in the cornea, conjunctiva, serous membranes, inner coats of the vessels, and in the placenta and umbilical cord, fully entitle him, we conceive, to this station. We intend at present to notice only the last of these discoveries, postponing to a future, and we hope not remote occasion, an account of his other researches.

Many anatomists, ancient as well as modern, have affirmed that they saw absorbents in the umbilical cord and placenta, but still little faith was accorded to these observations, because Hunter, Hewson, Cruikshank, Mascagni and some others of equally high authority were unsuccessful in discovering those vessels. The merit of placing this point beyond the reach of further controversy is due to Fohmann. According to this eminent anatomist, the umbilical cord, in addition to the blood-vessels, consists solely of a plexus of absorbent vessels, the meshes of which are so close that the point of a needle cannot be introduced without wounding one of these vessels. Nothing is easier, he asserts, than to demonstrate this net-work by injecting it with mercury; and we learn from a trans-atlantic cotemporary, (*Dublin Journal*; July, 1834,) that Dr. Montgomery, of Dublin, has entirely succeeded in injecting with mercury the lymphatics of the umbilical cord, by pursuing the method about to be described. To fill the umbilical plexus, it suffices, says Professor F. to pierce the sheath with a very spear-pointed lancet, and afterwards to inject mercury into it by means of a tube. In this operation a great number of absorbent vessels are necessarily wounded, and the mercury penetrating into one branch, quickly spreads in all the others, through their innumerable anastomoses. The injection is most easily effected where the gelatine of Warthon is most abundant; this substance being contained in the absorbent vessels, retains these vessels distended, and thus favours the introduction of the mercury. The experimenter must not, however, expect to find in the umbilical cord, vessels furnished with valves, such as Wrisberg pretends to have seen in it; or such as we observe when they form distinct vessels on the organs of the human body. The absorbent vessels of these deciduous structures, observes M. F. have not yet arrived at so high a degree of development; they are arrested at that state in which we find them in the lower order of animals, and as we observe them in

general in the parenchyma of the human organs; that is, they form net-works and plexuses, the ramuscles of which are deprived of valves, so that the mercury injected in a branch easily flows from one branch into another, whatever may be their direction. The larger lymphatic vessels are described as occupying the axis of the umbilical cord, whilst the smaller ramify towards its surface, and spread over the umbilical sheath. The cells or vesicles observed in them commonly appear when injected with mercury, like dilatations of those vessels in which branches enter on the side of the fetal placenta, to continue their course to the fetus. The absorbent vessels are excessively slender at the two extremities of the cord, especially at their passage through the skin of the umbilicus.

When the absorbent plexus at the placental extremity of the umbilical cord is filled with the mercury, and this injection is pressed along towards the placenta, with the handle of the scalpel, we sometimes succeed in distending with it a net-work of lymphatic vessels, situated between this body and the amnion with which it is covered. Professor F. has never observed vessels running from this net-work to ramify in the amnion, as he has remarked in the umbilical sheath; and he has but rarely seen branches from this net-work, penetrate into the parenchyma of the placenta of the fetus. He has not yet discovered the ultimate terminations of these vessels, but he believes that they pass to the uterine face of the placenta, and that they unite with the very slender lymphatic vessels sometimes observed there. According to Alexander Lauth, (*Considerations sur le Placenta*,) there is a layer of absorbent vessels between the maternal and fetal portions of the placenta, whence arise branches which terminate in the veins of these two portions, so that the fluid they contain is conveyed into the system of the mother as into that of the fetus. This opinion Professor F. considers as entirely just, and that the medium of union between the uterine and fetal placentas may be compared to pseudo-membranes, which consist according to his experiments, almost exclusively of lymphatic vessels, which unite in their course with the absorbent vessels of the parts united by these membranes.

The plexus of absorbent vessels of the umbilical cord, pass to the abdominal region of the fetus, and a few lines from the umbilical ring their superficial ramifications become so small, that even when filled with mercury they cannot be distinguished except by means of a strong magnifying glass. These vessels fortunately gain in strength what they lose in capacity; and we may use the scalpel to push along them the mercury, without fear of rupturing them. On their arrival at the umbilical ring, they dilate a little, and unite in part to the close net-work of absorbent vessels, that covers the skin under the epidermis, and of which the umbilical sheath is the continuation, whilst the remainder unite to branches that enter beneath the skin, and which at some lines distance from the umbilical ring form a trunk, which running circularly also forms a ring. From this ring two branches are given off, which following the superficial veins of the abdominal parietes, descend between the skin and muscles in the inguinal regions, pass under the crural arches, ramify in the iliac gland, and finally terminate in the thoracic duct. Professor F. states that he has constantly observed the same arrangement; but he has also seen some branches from the lymphatic vessels, within the abdominal muscles, which pass from the

umbilical cord through the abdominal circle, and following the vein and umbilical arteries, arrive at the vena porta hepatici, in passing towards the glands which receive the vessels descending exterior to the abdominal muscles, as has just been said.

The development of the iliac glands in the fœtus and infant is very remarkable, which, Professor F. thinks, may be explained by their performing the function of assimilating the nutritious fluids which the embryo receives from the mother through the umbilicus. Whilst the lymphatic glands appear almost every where like mere corpuscles, which are readily overlooked, the iliac glands attract attention by their size.

The views of Professor F. relative to the mode of nutrition of the fœtus are extremely interesting, and if we are not yet prepared to implicitly assent to their correctness, we are willing to admit that they are at least plausible, and are obnoxious to fewer serious objections than any theory on the subject we have yet met with.

Professor F. attributes to the lymphatic vessels of the placenta and umbilical cord the function of absorption and transmission, principally of the fluid which the uterine placenta secretes for the nutrition of the fœtus.

"That this last," he adds, "receives in this way nutritious fluids, absorbed also from the liquor amnii, either by the skin or umbilical sheath, or alimentary canal, or respiratory passages, cannot be called in question; nevertheless, the umbilical cord, that is, the plexus of vessels of this part, is certainly at this period the principal route by which it derives its nourishment."

During the period of gestation, at which the ilio-umbilical vessels have not yet reached the uterus, and before the placental relations have been established, Professor F. considers the liquor amnii as the sole source of nutrition.

"As this water," he observes, "then exists without as well as within the amnion, and may moisten the abdominal cavity and the parts within it, through the large umbilical opening, as also the skin of the fœtus, absorption may take place from many points. In my opinion the skin here plays the most important part; at least, I am convinced by researches, that the absorbent vessels of the skin are very early developed in the fœtus, and that they are even larger than in adults. I have also found that certain parts of the skin are more abundantly provided than others with these vessels, as well before birth as afterwards; whence it follows, that these parts participate more largely in absorption, and of these are the genitals, the mammae and lips. By whatever part of the body however, the liquor amnii is absorbed, it is received into the blood only by the lymphatic vessels. Neither the absorbent vessels of the mamma, nor those of the mucous membrane of the trachea, or of other parts, proceed to the thymus, as several authors suppose, but to the glands of the axilla, to those of the bronchi, and thus into the great trunks of the lymphatic vessels."

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XXIII. *Illustrations of Surgical Anatomy, with explanatory References; founded on the work of M. Blandin.* By JOHN G. M. BURT, Surgeon extraordinary to the King in Scotland. Second edition. Glasgow.

This work consists of sixteen plates, representing the superficial and deep-seated anatomy of the neck; a perpendicular section of the head and neck, showing the relative situations of the cavities of the nose, mouth, larynx and pharynx; those parts of the eye concerned in surgical operations; anterior and inferior